CAS 127-18-4

Substance name Perchloroethylene (also called tetrachlorethene or tetrachloroethylene)

Toxicity

Perchloroethylene is a halogenated hydrocarbon classified as a carcinogen by authoritative sources.[1-3] Evidence from laboratory animals shows it can cause liver cancer and leukemia in rodents.[1,2] Human evidence comes from studies of people occupationally exposed to perchloroethylene either through manufacturing or dry cleaning. The most consistent evidence across these studies suggests there may be an association between increased exposure and increased incidence of esophageal and cervical cancer and non-Hodgkin's lymphoma.[2] Conclusions are limited by co-exposures to petroleum solvents and other dry cleaning agents.[2]

Exposure

Perchloroethylene is a high production volume chemical used in dry cleaning garments, metal cleaning and synthesis of other chemicals.[4] It is used in the textile industry for cleaning, processing, and finishing.[1] It has been used in household products like spot removers, lubricants, and water repellents.[4] Consumer product testing by the Danish EPA detected it in children's tents but not in a study of textiles.[5] Biomonitoring of the general U.S. population detected perchloroethylene in about one quarter of the people tested in 2001-02.[4]

References

1. WHO, International Agency for Research on Cancer. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume No 6, Dry Cleaning, Some Chlorinated Solvents and Other Industrial Chemicals. 1995. http://monographs.iarc.fr/ENG/Monographs/vol63/index.php.
2. U.S. DHHS, PHS, National Toxicology Program. Report on Carcinogens, Eleventh Edition. 2005. http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s169tetr.pdf.
3. California Office of Environmental Health Hazard Assessment. List of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Feb 5, 2010. http://www.oehha.org/prop65/prop65_list/files/P65single020510.pdf
4. Centers for Disease Control and Prevention. Fourth National Report on Human Exposure to Environmental Chemicals, 2009. http://www.cdc.gov/exposurereport/data_tables/
5. Danish Ministry of the Environment, Environmental Protection Agency. Surveys on Chemicals in consumer products. Reports 23 and 46 (2003-04). http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm